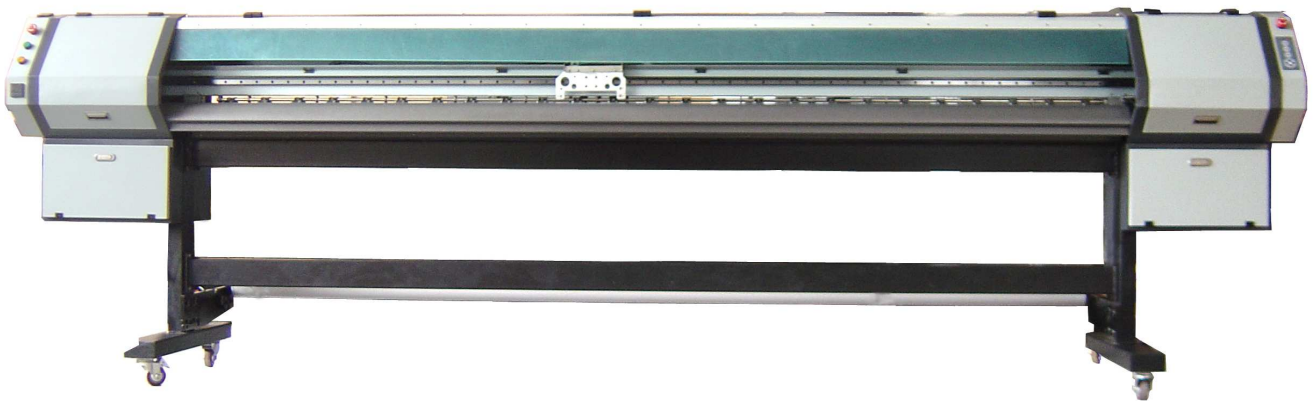


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# *EVOLUTION*

## *User Guide*



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## Thank you for purchasing **EV** Printer

This user guide includes equipment structure, description, Technical parameters, operation manual, safety information application of software, etc. Please read this manual carefully.

We tried our best to edit this manual and test our machine before market; however, we do not guaranty errors existing. Please inform us if you find any.

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## Chapter 1 Safety Information

Please read the following directions thoroughly before you start to use this machine.

1. You should place the printer in a room what is,

-  Clean and breezy with flat ground;
-  Anti-electromagnetic, quakeproof and without heavy dust;
-  to keep the condition around at temperature: 19°C~25°C and humidity: 40% RH ~70%RH.

2. Be connect the printer and PC to a reliable outlet well grounded

-  Do not connect earth cables in the following areas:
  - Gas pipes. Doing so may cause fire or an explosion.
  - Earth terminals for telephone line or lightening rod. Doing so may cause a large flow of voltage if lightening occurs.

- 
- Water pipes or faucets. If there is a plastic part in the pipe, the earth will not work properly.

✚ Advice: a pontil which is longer than one-meter planted in the salted oil is for ground connection, the other end of ground line with a M6 bolt is connected at the right side bottom with a sign of the printer. The ground line availability area is should be larger than 1 square millimeter. Also, the ground line should be conducting line.

3. Do not pull or plug the power cable between the printer and PC, and be waiting 10 seconds before you need to turn on the power again.

4. Adoption of good quality solvent ink is necessary for the printer. If you want to use the ink of other brand please contact the local dealer.

5. When using the machine, be care for that,

- ✚ Do not press the machine cover by hand or other heavy things;

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✚ Do remember to turn on / off by power switch which is at the left of printer;

6. Printing directly on the printer plate without the media is forbidden;

7. If you encounter the following questions, please cut off the power at once and contact the local dealer,

✚ Power switch is out of control or damaged;

✚ Cannot operate it normally or some obvious changes of machine function.

8. Computer requirement

- CPU: at least P□ 2G
- RAM: >256MB
- Main board: credible brand suggested
- Hard disk: >40GB, C disk partitioned at least 8GB~10GB
- UPS: according to the printing scale
  - ◆Option: 2000w manostat
- OS: Windows XP

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## Chapter 2 Technical Specifications

MODEL	EV3208XL/EV3212XL
Print heads	8/12 Xaar pizeo heads
Print resolution	360*720DPI 720*740DPI
Print heads height	2mm ~ 3mm off media
Print size	3200mm/10.49ft
Media size	3250mm/10.66ft
Print speed (bi-direction)	EV 3208: (36,24,18) m <sup>2</sup> /h (2p,3p,4p) EV 3212: (44,28,22) m <sup>2</sup> /h (2p,3p,4p) EV 3212S: (36,24,18) m <sup>2</sup> /h (2p,3p,4p)
Print direction	Uni/bi-direction
Ink type	Solvent ink: C, M, Y, K 4colors,or M,C,Y,K,LC,LM 6colors
Ink-supply type	Using force pump to supply ink continuously
Media type	Normal PVC banner, vinyl, self-adhesive

	vision vinyl etc.
Media transmission	Rolling media or single paper
Print interface	PCI card Optical Fiber
External size (W*D*H) m/ft.	4700*850*1300mm
Weight	370kg
Power requirement	110V/220V $\pm$ 10%, >10 A, 50/60 Hz
Environment	Temperature: 20°C~28°C, Humidity: 40% RH ~70%RH
Other characteristic	Auto and manual purging print heads system; Auto ink-supply system Auto media feeding & take-up system Auto pre-heater & dry system Auto fans dry system

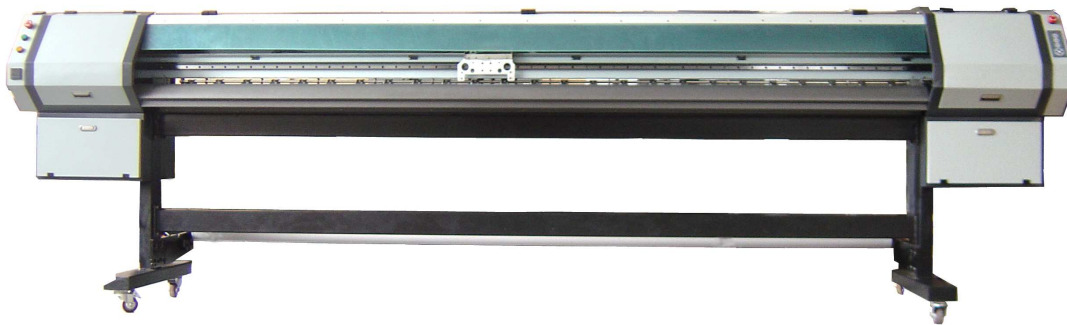
The technical Specifications above are changed without notice.



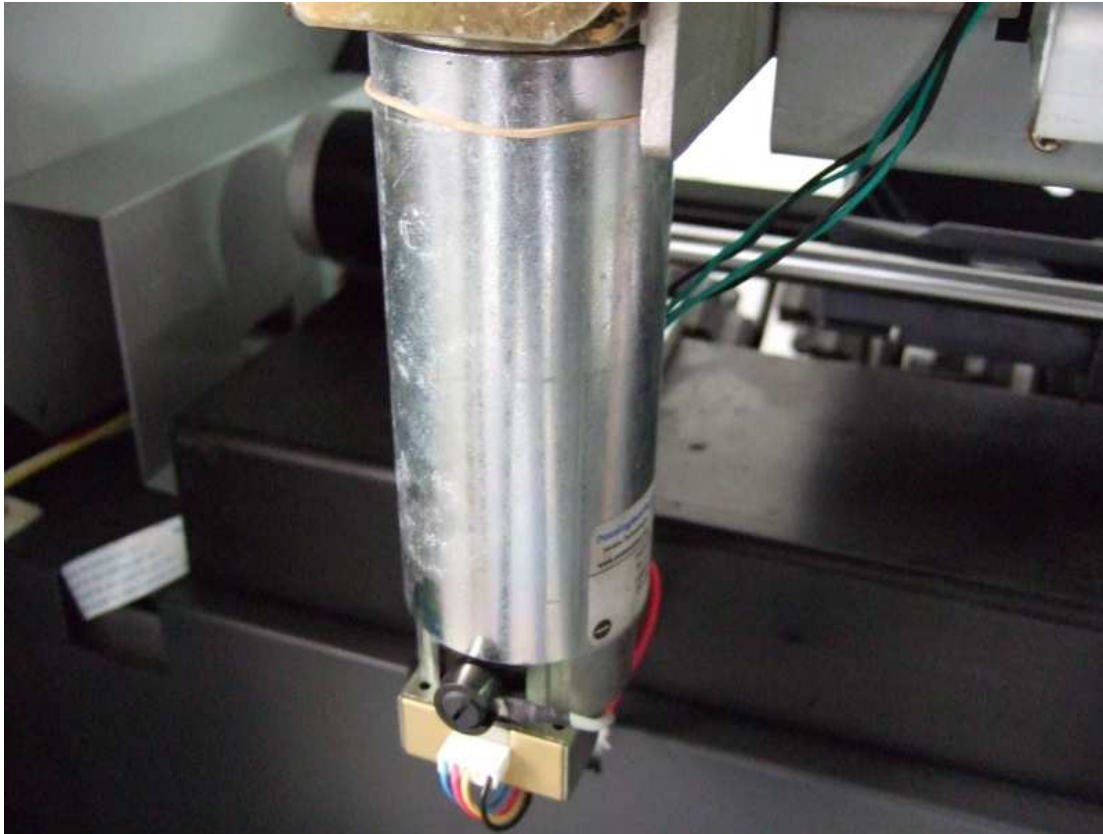
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## Chapter 3 The printer main components

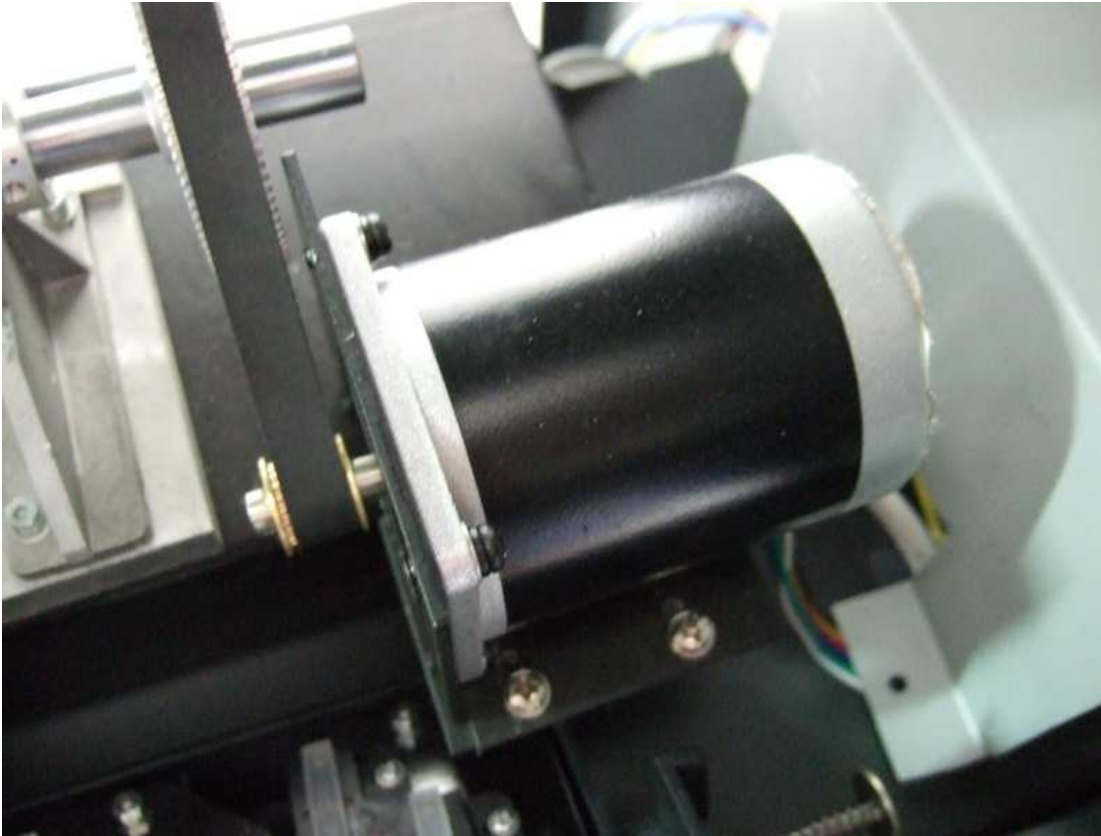
### 1. Framework



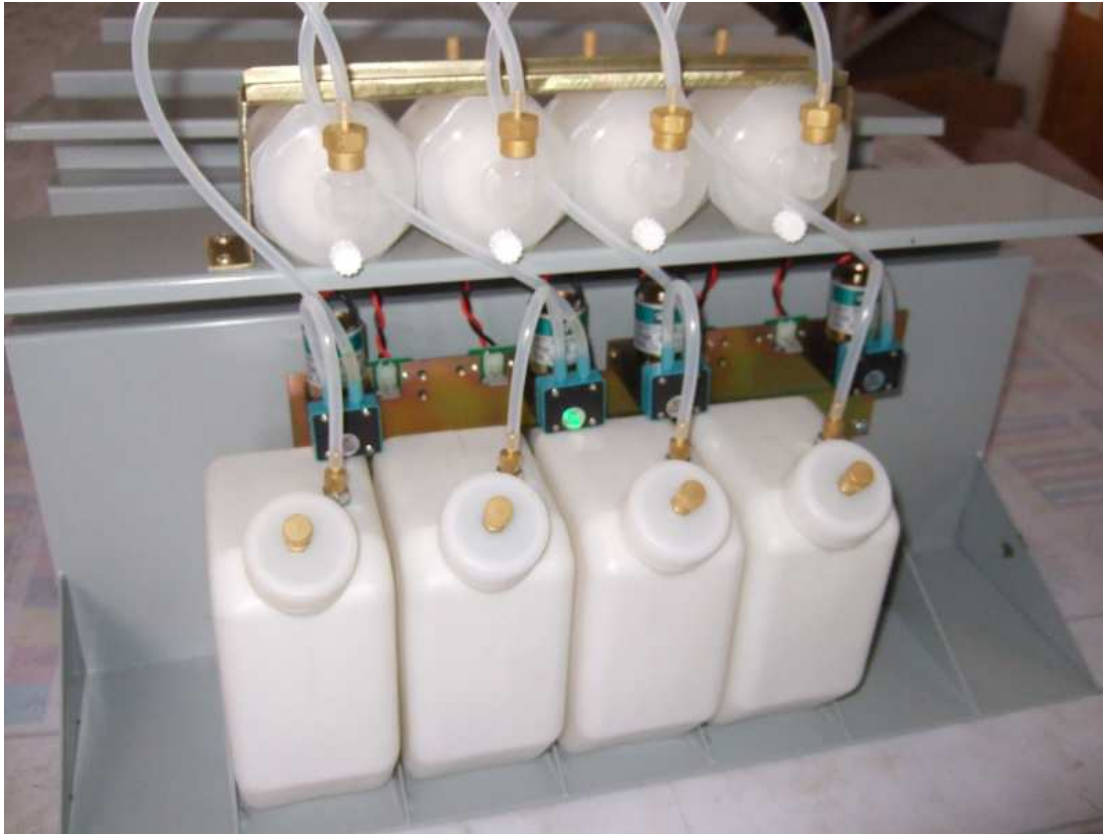
### 2. DC servo motor



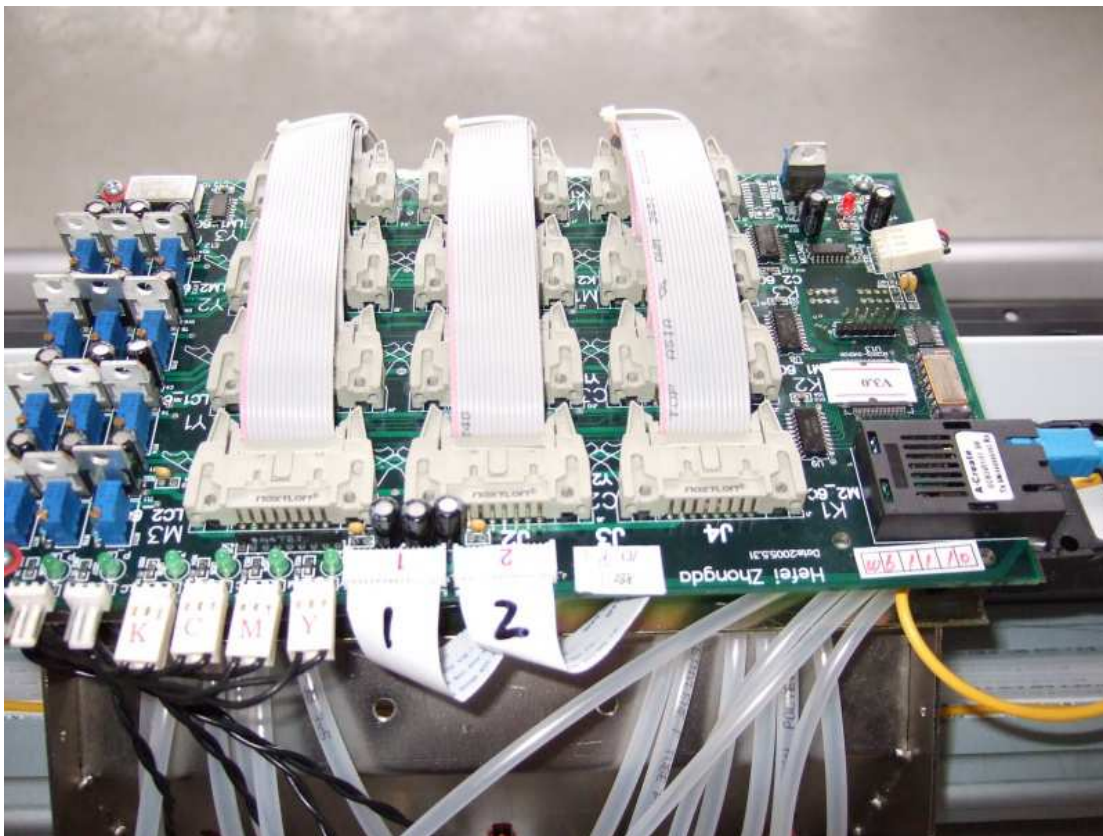
### 3. Stepper Motor



#### 4. Auto ink supply system

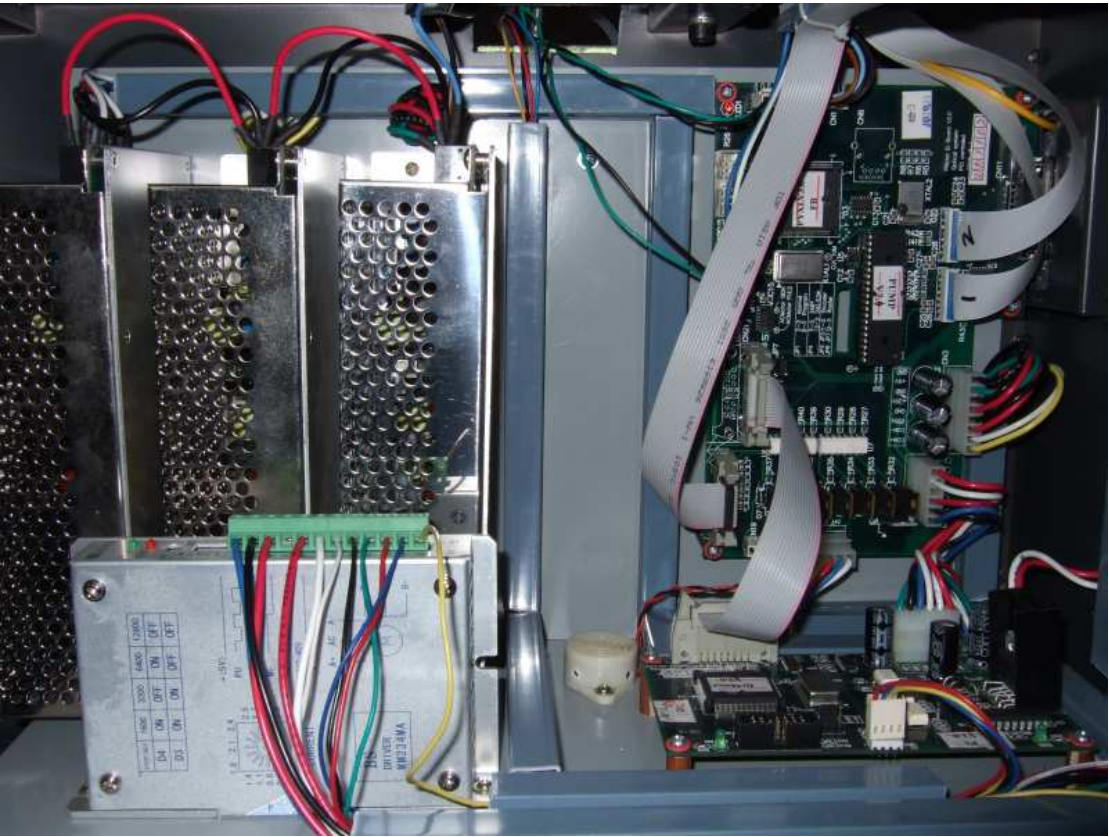


5. Carriage board





## 6. Right electrical box



# 7. Left electrical interface



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## Chapter 4 How do I perform basic operation?

### 1. How to install Printer?

Install the machine stand in the following steps:

- A) Connect Crossbeam of machine stand to the left/right column, and adjust the 4 wheels on the stand pillar to touch ground, to make the machine stand stability;
- B) Connect the left/right holder for paper roller to the left/right column;
- C) The end of vacuum soft tube should be through the hole of the host machine bottom first, then connect to the hole of the inhalant;
- D) Place the host machine on the machine stand and tightened well to be stable. Lock the truckles and ensure that the host machine is stable without shake;
- E) Connect the other end of the vacuum soft tube to the waste ink box. Then hang the waste ink box on the left column, the exit of the waste ink box should be connected to the vacuum (user provide for themselves);

Place roller for feeding paper on Left and right holder of paper roller, then install the gear wheel cover, and place

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Tension Roller on Left and right bracket for pulling paper.  
Connect the drying fans bracket to the stand of printer,  
and then place the rubber ring on the Tension Roller.

Note: if the PVC banner breadth is shorter, you can move  
the rubber ring to the middle .Ensure that the rubber ring  
is on the PVC banner so that PVC can move smoothly.

F) Connect Media Optical sensor cables, AC Motor cables  
and fan power to corresponding plugs.

G)Connect Power cables to left side of printer.







## 2.How do I install PCI card and Driver?



Turn off your computer power first, and open cover of your computer box, then insert PCI card into PCI port of computer. If you don't know well of this operation, please contact a professional or after service personnel to do. So as to prevent hardware damaged.

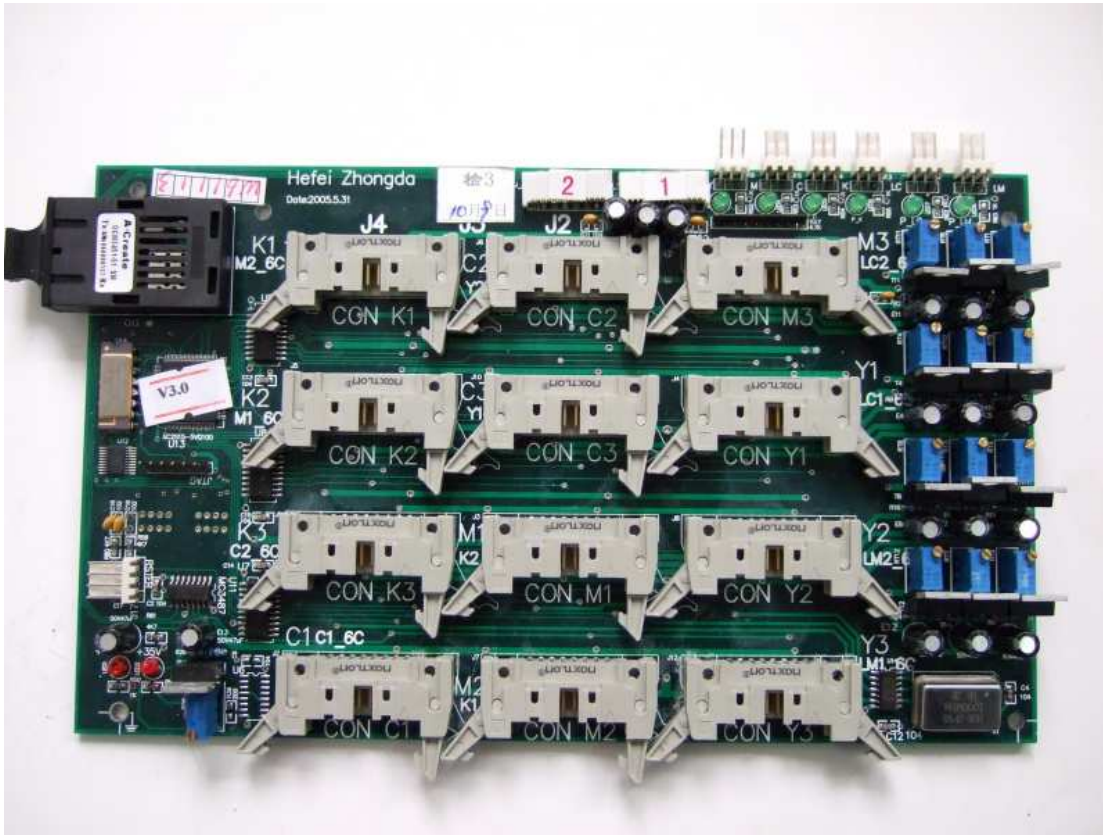
Please connect PCI control card to the printer with 15 pins print cable and optical fiber when insertion of PCI card finished. The optical fiber should be connecting to TX Port of PCI card. The terminal which connects to the carriage board should be RX Port.



15 pins print cable



## Optical fiber



## Carriage board





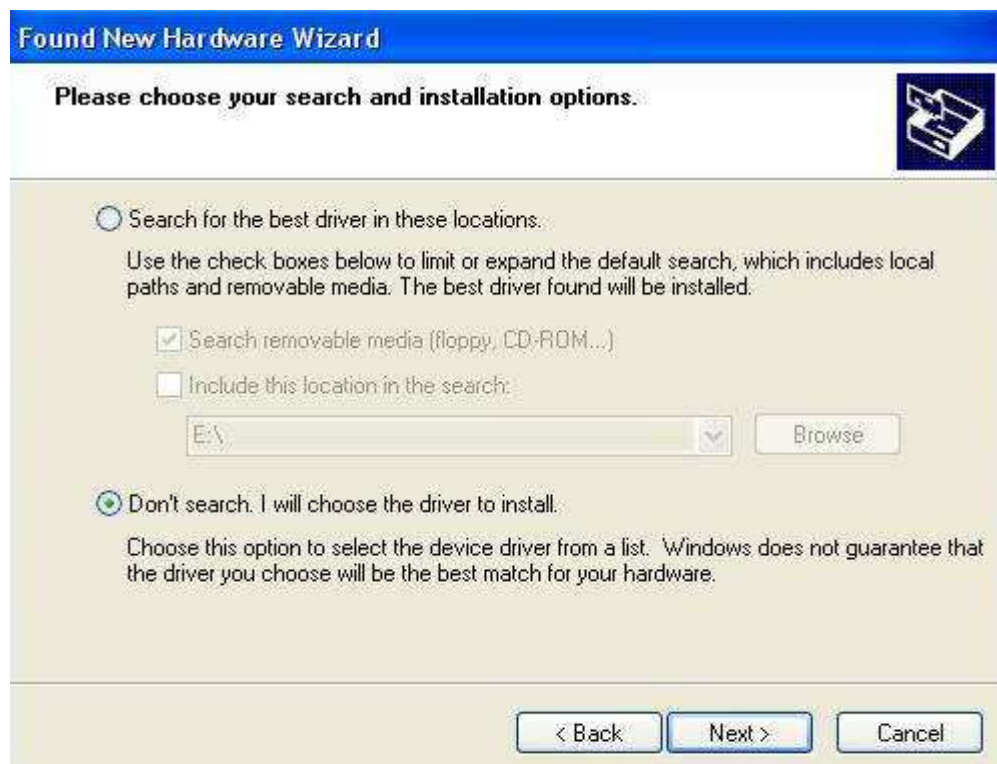
### Connecting RX for Carriage board

Install PCI device referring to the following steps:

The graphical user interface of PCI device is similar to Win2000's. You will see Hardware Wizard first, then put CD sent along with the printer into CD-ROM and choose "Install from a list or specific location (Advanced)".



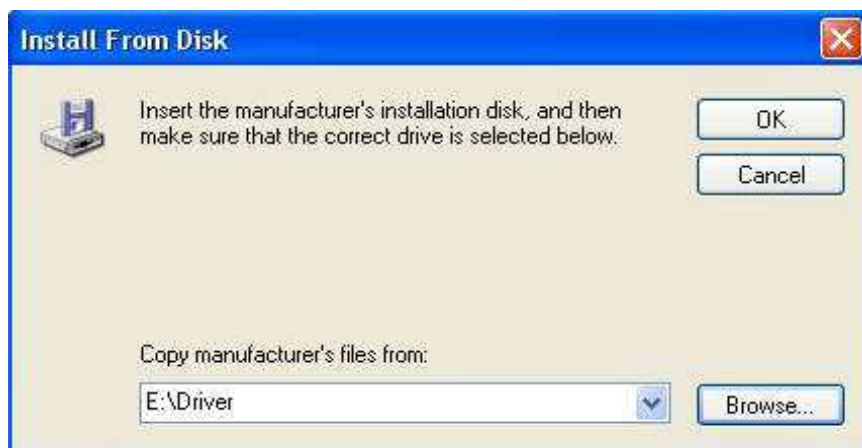
Click the "NEXT".



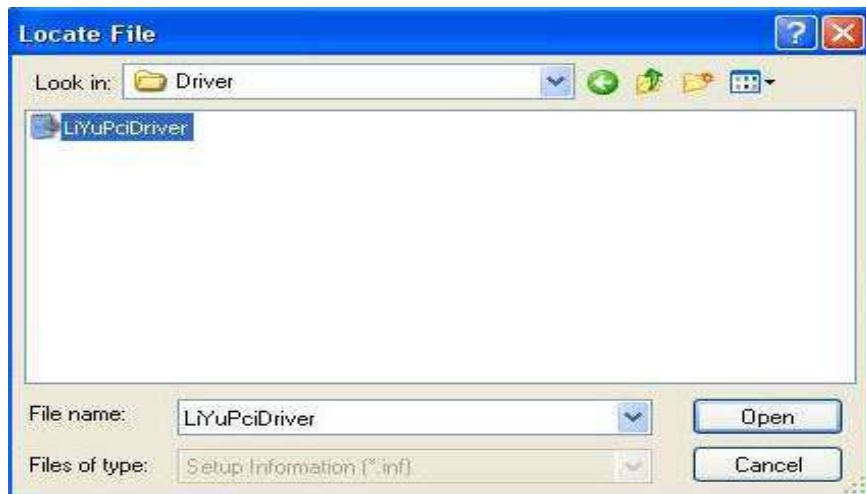
Choose "Don't search. I will choose the driver to install", then "NEXT".



Click "Have Disk", to show "Install From Disk" interface.



Click "Browse" to choose LiYuPciDriver.inf document under Driver directory in CD.



- If your CD-ROM is E disk, please to choose LiYuPciDriver.inf document under E: \Driver.

Then click "OK" in "Install From Disk" interface. Next interface will show PCI Card installation type that you need.



Choose "LYRIC JetPlot Cad" item in Model bar, to click "NEXT". At the same time Windows XP will install driver. Restart the computer after installation finished. So



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installation of PCI control card driver is over.

### 3.How do I load media and do printer self test?

A. lift up the pinch roller handle, load the media from back side of printer to front and keep the side of the media aligned with slot in the front of plate, then put down the handle;

B. By the switch of the DC motor you can change the rotate direction of the paper roller;

C. Use two clamps (steel slice) to hold brim of the media  
Otherwise print heads might not damaged;

D. We must ensure that there is no object left on the work plate.

E. Then turn on the printer, the printer should do self test after power on. The carriage move from left to right automatically one time and the principal axis with the media move to-and-fro one time. After self test is over,

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we can do calibration tests.

NOTE: if you print long image, you should calibrate the parallel degree between roll paper side and feeding direction to avoid the media displacement. You can press the key panel to feed some media to check if the media side is displacement or not.

#### 4.How to use Key Panel to control printer?



##### key panel function introduction


- PURGE: Press this key and exceed a second, the print heads carriage will move purging position in the left of

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the printer to wait manual purging. At the same time you can use four Direction keys to clean each print head. When you press one of the four keys, purge deep; when you loosen the key, stop purging; when purging finished, please press "ESC" key, then the carriage will return the position where stayed before purging. Press this key less than a second, the print heads carriage will move purging position to purge and then return automatically. If you purged print heads as printing, the printer would go on printing that not yet finished before purging.

- ESC: Press the key to exit pause and purging state.
- PAUSE: During printing, you can be arbitrarily to press it, then press "ESC", return to print.

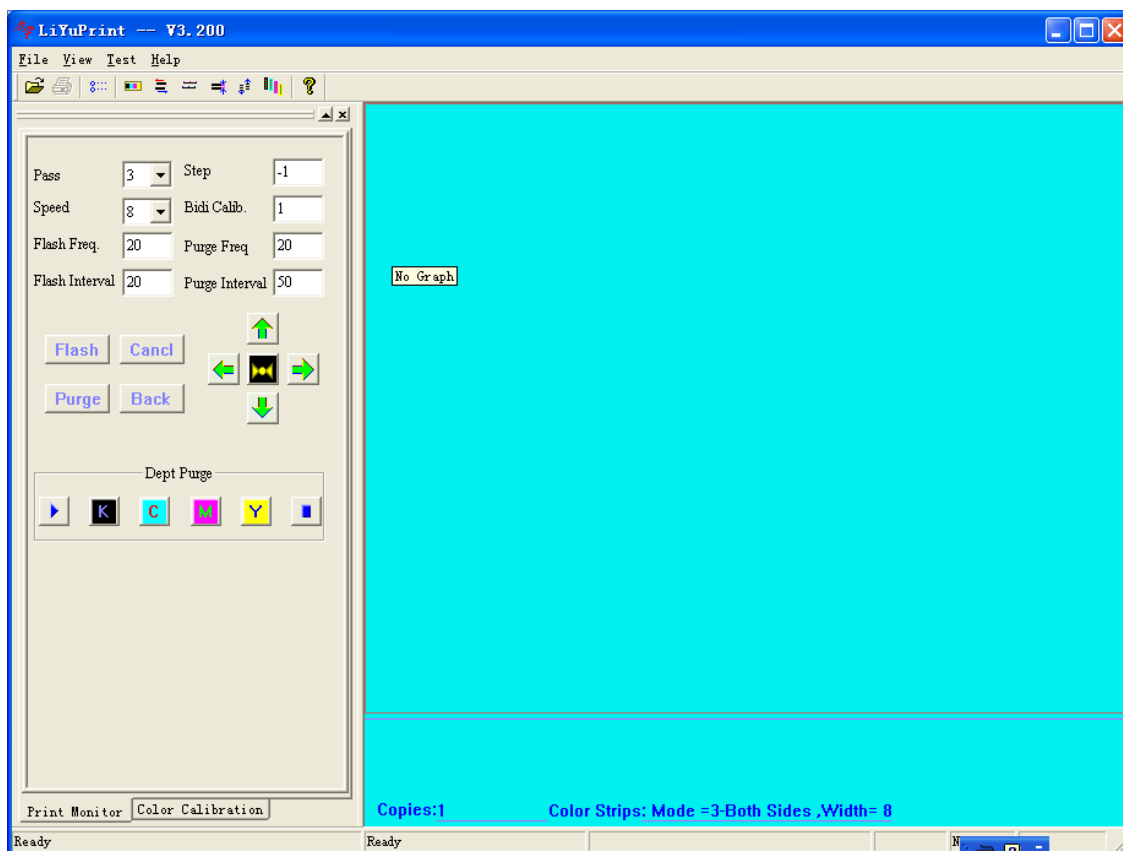
Direction key:  make the print heads carriage

move;  make paper roller turn.

## Chapter 5 How to use software?

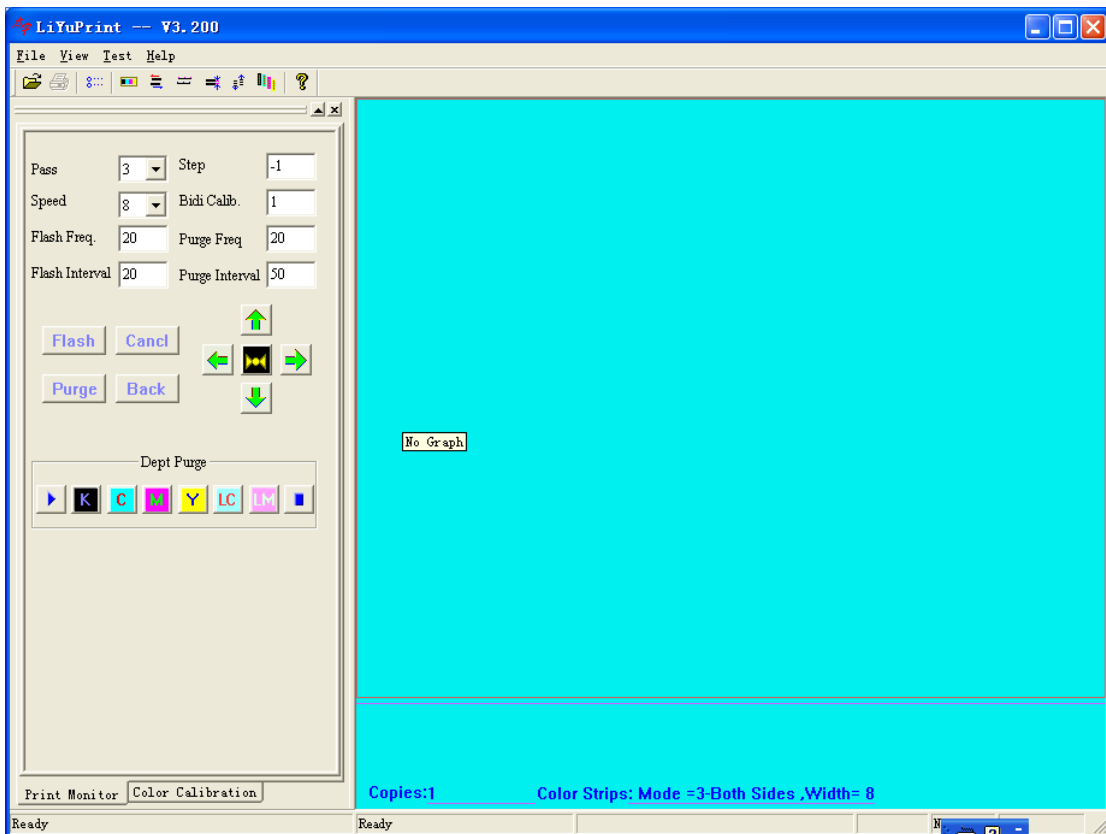
### 1. How to use liyuPrint?

A) Double click the icon of LiYuPrint on the desktop and then start its program, main interface as follows:



4 colors

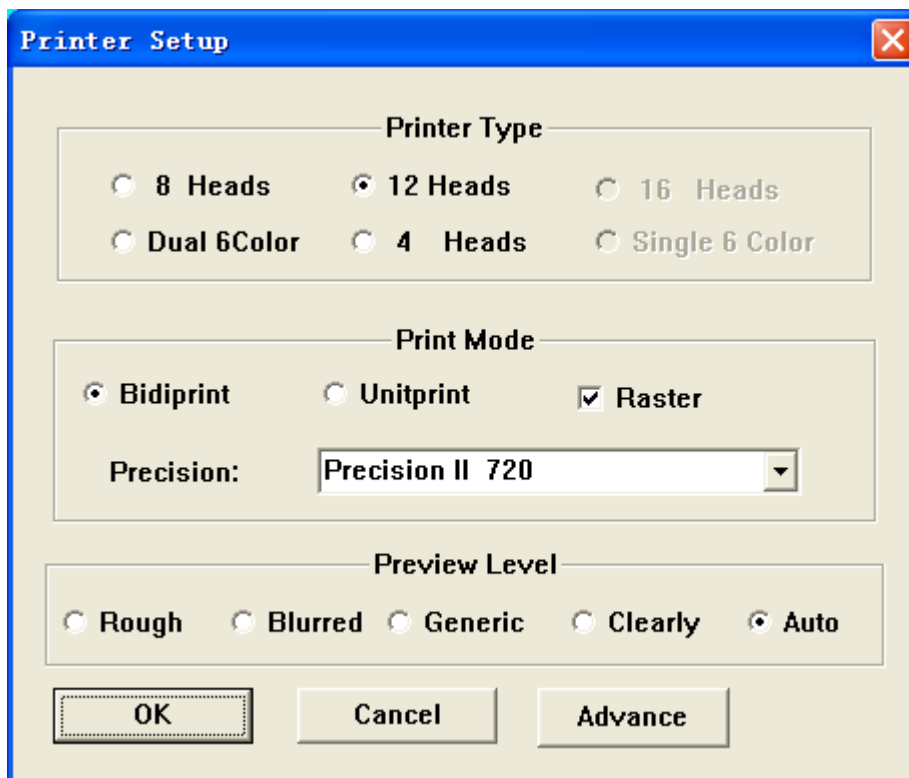
NOTE: press the 'Print Monitor' and 'color calibration' in the left down, you can switch interface between Printer Setup and print heads calibration.



6colors

## B) System settings

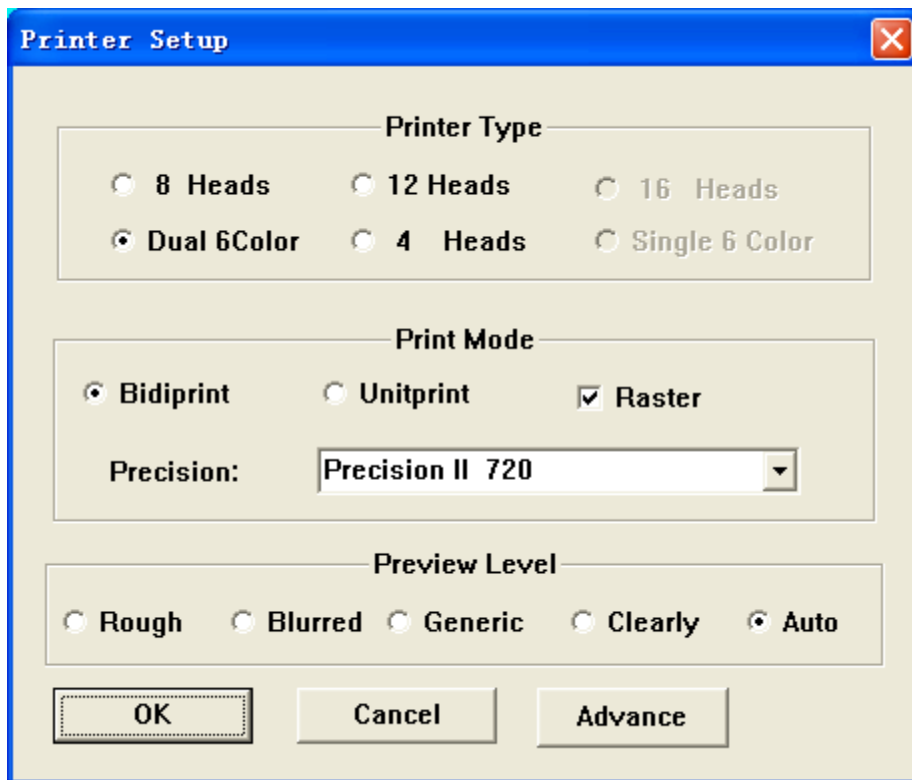
Please choose the right number of print heads that you use before printing by LiYuPrint. You can set it up via system settings on the file menu.



#### 4 colors system setup

Note: It must be right that you are using the number of print heads of the printer at printer type. Otherwise picture of printer output would be a mistake.

You can choose the bi-direction or the single direction of print mode and setup the accuracy of preview printing picture in system settings.



6 colors system setup

### C) Glossary of setting item


- Pass: Setup number of print pass.
- Speed: Setup print speed. COMPACT SOLVEN EV series printer offers eight speeds to choose. Speed 8 is the fastest mode.
- Step Calibration: Fill in number of step adjustment.
- Bi-direction Calibration: Fill in number of bi-direction adjustment.
- Flash Frequency: The print head jets number of times every second.
- Flash Interval: During printing, the print head carriage will move the left of the printer, flash position, to jet

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every certain times that printing back and forth. The times are flash interval. It is right to setup flash interval, can help you to prevent effectively from clogging print head.

- **Purge Frequency:** When purging automatically, the print head carriage will enter into the left of the printer, purging area, then the printer will start automatically vacuum that was joined on the printer. The print head carriage proceeds to purge several times back and forth above inhalant. The times are named purge frequency.
- **Purge Interval:** Each certain time that printing back and forth, the print head carriage will enter the left of the printer and purge automatically then goes on printing. The number of times is purge interval. It is right to setup, can also help you to prevent effectively from clogging print head.

## 2. Glossary of key

- **Direction Key:** The left and right keys control the print head carriage to move horizontally. The up and down keys control the step motor to roll over media.
- : Reset key, make the printer return the original



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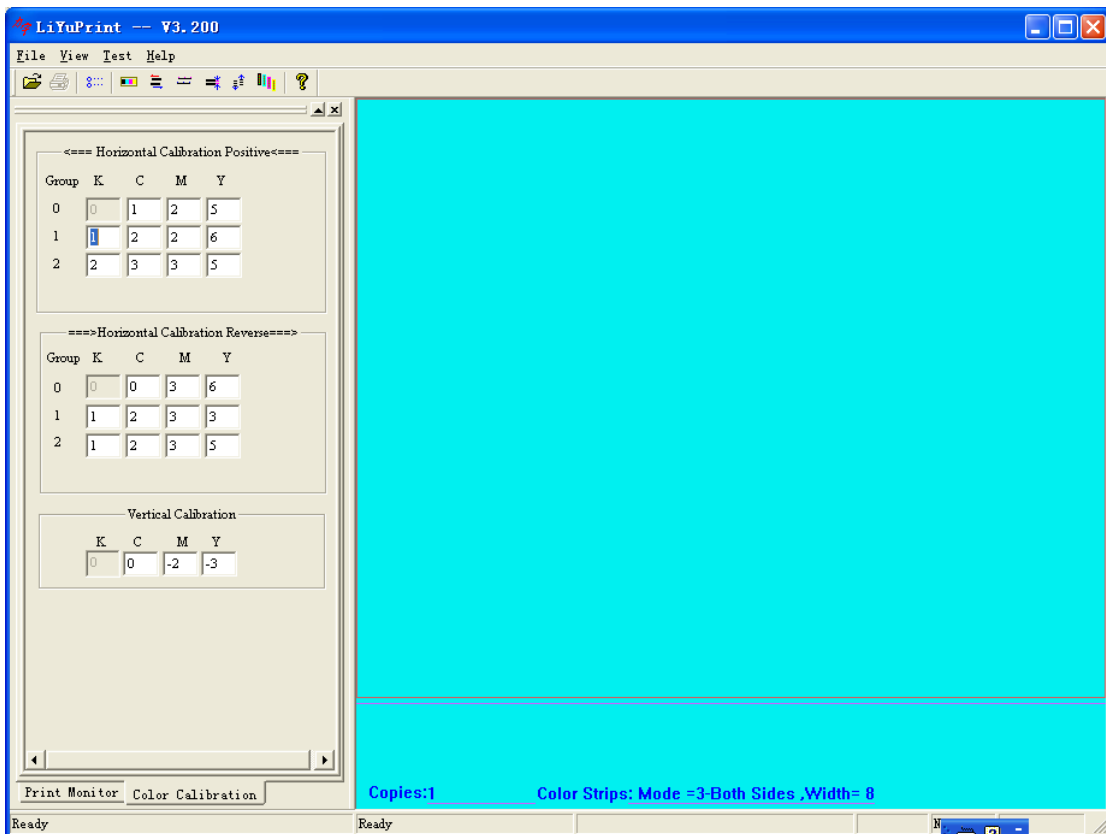
position.

- Flash: The print head jets a few times every certain time at the left of the printer to prevent to clog the print head.
- Purge: Cleaning print head function, the print head carriage will enter into the left end of machine to purge automatically.
- Cancel: During printing, this key will stop operation of printing.
- Back: The printer will exit from flash state and manual purging by clicking it.

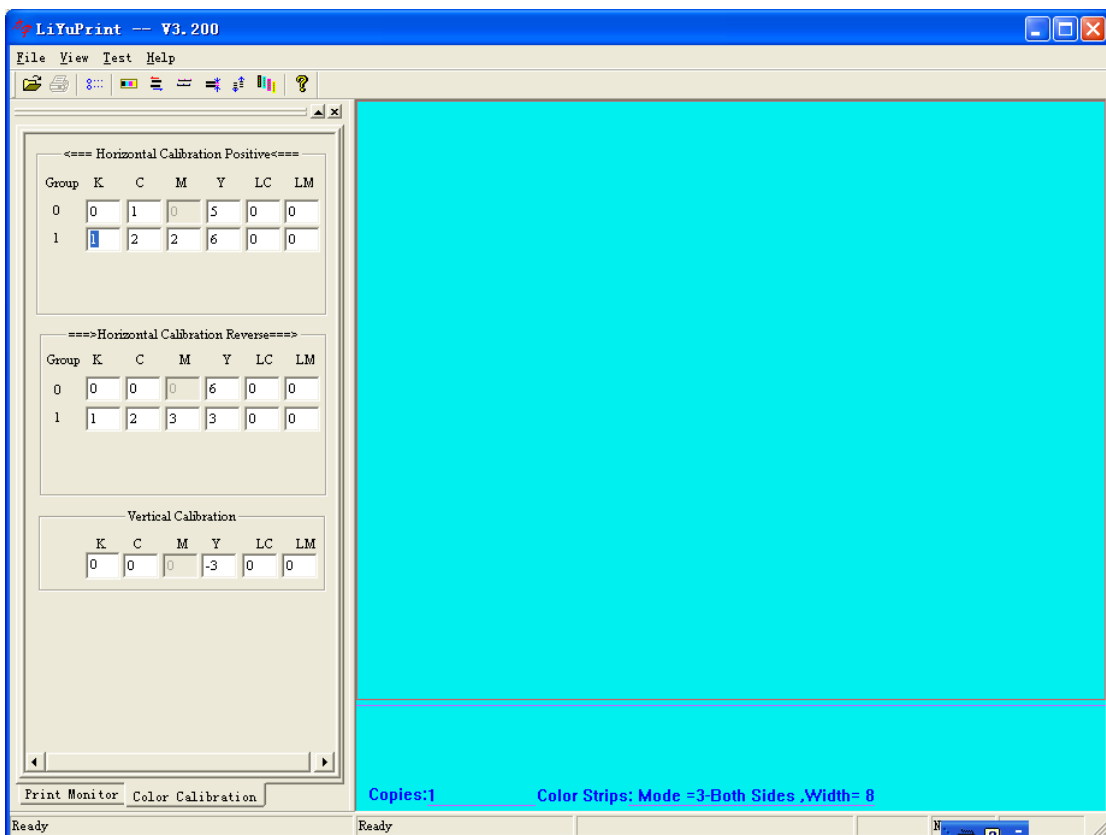
Depth Purge: when you press one of four keys, the print head carriage will move the left of printer, purging area, and purge print head with corresponding color (2~3print heads/color). At the same time, you can also click other keys to purge print head. Click "Back", the print head carriage comes back after purging finished.

### 3. The interface of print head calibration

Press 'color calibration', you will find:

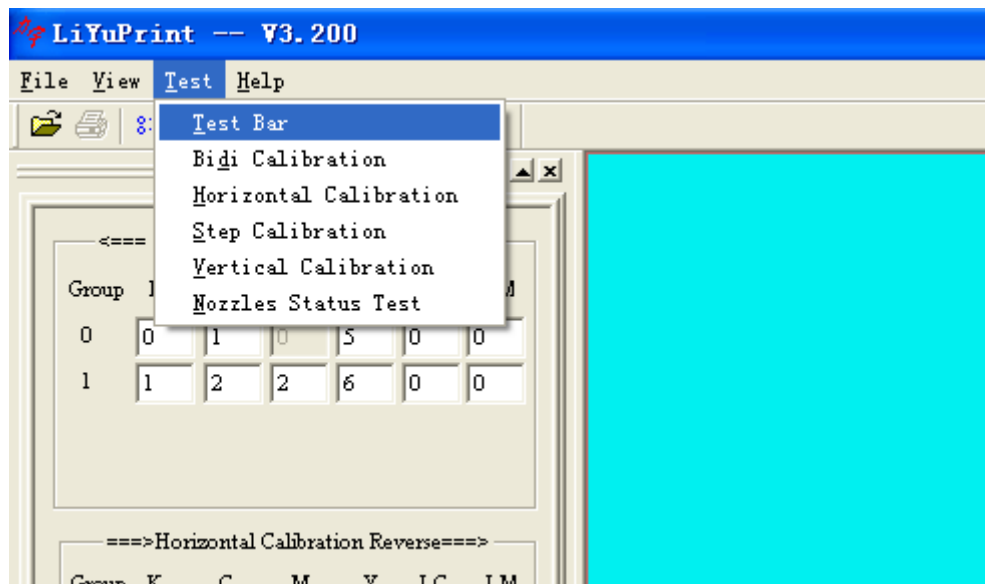


4 colors calibration interface



6 colors calibration interface

You must run each test of “printing test” in menu item first---as follow picture, when you want to setup items in the interface.



- Horizontal Calibration: To run horizontal test of “printing test” in the menu item, the printer will print diagram of horizontal calibration test. The calibration value is number of the aligning place in each test diagram. And fill the value in corresponding item. (If printer type of the system settings chooses 8, K2, C2, M2 and Y2 items will not emergence.)
- Vertical Calibration: The same method as horizontal calibration.

The “printing test” includes also bi-direction test, step test, check nozzle and test bar. Among the tests, you can refer to method of horizontal calibration to operate bi-direction

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test and step test. And fill in the calibration value.

Check nozzle test show if print head is clogged. Once the print head is clogged, check nozzle picture will show the problem.

Test bar can show the effect of calibrations, such as horizontal, vertical, step bi-direction and etc. If one of them not accurate enough, test bar will show the problem.

NOTE: when the calibration is over, the calibration value will be saved in the LiYuPrint.dat under LiYuPrint. Please backup this document. When document is damaged, you can recover the calibration value.

## 4. Print Picture

Click file → open or tool bar  key, then choose \*.prt or \*.prn document and open. Now the document that you choose will show in picture preview area of the main interface. Finally, please click , the printer starts to print.

During printing, a horizontal dotted line which is in picture preview area shows degree of printing progress currently.

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## Chapter 6 Maintenance

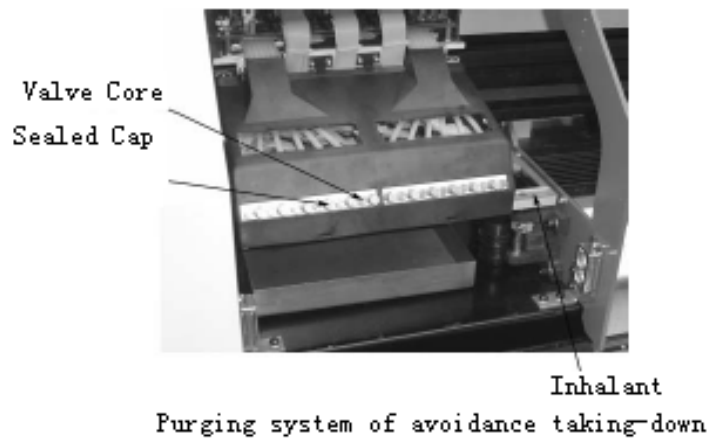


Fig 6

### 1. Purging as printing (see as Fig.6)

- ① During printing, if you find out that the print head is clogged, you should press "PURGE" key to purge the print head. The print head carriage will move automatically to the purging area at the left end of the machine.
- ② Press one of four color keys to purge print heads with one color ink. If print head clogged heavy, you should prolong time of purging.
- ③ After purging finished, press "back", then go on.
- ④ You can also use the cleaner cloth that soaked with cleaning solution and place it under print head for several minutes or sweep print head gently to get rid of

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clog of nozzle.

⑤ If heavy clogged and purging useless, you need cleaning-up print head. Now tighten the valve to cut off the ink flowing, then screw off the sealed cap, finally fill a syringe up with cleaning solution to flush up the nozzles of print head into the sealed cap.

⑥ After purging finished, fasten all of the 4 sealed caps clockwise and loosen the valves (about 3~5 circles anti-clockwise) for instauration ink supplying.

⑦ Repeat step ②, ③ and clean up the remained cleaning solution in print head by vacuum till the solvent ink jet out. Now you can return to print.

⑧ If print head clogged seriously, you must stop printing and power off. Take down the print heads and soak them into the cleaning solution for 8~24 hours then re-install it, nozzles of the print head face down.

Note: Don't hurt the print head surface when you take down it! Be careful the top of the print head can't be touched by the cleaning solution. When you install the print head, please adjust the distance among the print heads again!

⑨ If above measures are useless, please contact the

---

local dealer at once, and ask for professional maintenance or replacement.

Note: be careful the airproof tube of connecting print head.

□ When finishing one job every time, the printer come back the home that is under the print head-pad plate, which to protect print head. So please purge automatically several times before printing a job.

Note: Not work in 20 minutes, you can press flash to protect print head; about in 12 hours, you should use the print head-pad plate to protect print head.

## 2. Print head maintenance after printing

① After power off, move the print head carriage to the left end, then to do followed as above step ⑤ Screw on the 4 sealed caps but not tightened .

Note: after finishing purging purge print head, keep full cleaning solution in the tube between valve and print head. At the same time, please clean the nozzles of print head to void the ink used previously to debase print capability.

②Put the nozzle-pad plate into the right of the printer.

---

Then inject the cleaning solution into nozzle-pad plate.

Note: the cleaning solution can't splash on the motor and meet lines.

③ Move the print head carriage to the right end just above the nozzle-pad plate and make them sealed well, so good protection for the print head can be realized. And keep the print head from dryness and dust.

Note: if the printer is not work exceed 12 hours, you should inject some oil solution into the print head to keep the print head wet. You also should push the print head in the nozzle-pad plate very slowly.

### 3. Printer maintenance

- ① keep the printer room order and cleanness;
- ② keep the convey belt propriety tight. Open left cover, you can adjust the convey belt tight degree. After adjustment, you must tighten meet bolt;
- ③ Around the nozzles of print head, it must be cleanness, not remained ink, no dust and fibre. You can't hurt the nozzles of surface;



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□ Ink and cleaning solution are all stronger solvent. So they can't touch with electrical appliance and lead. If there is some ink or cleaning solution on the bottom plate and guide cover, you should clean them quickly.

□ the waste ink box will reserve some ink when purging. In order to prevent vacuum, you should open the ball valve of the waste ink box in time to swill waste ink. If the waste ink is ropy, please inject some clean solution into the waste ink box, before you swill waste ink from it.

□ Keep the work plate cleanness. Before power on, you must check printer plate and ensure there are no any sundries on it, such as bolt, to protect print head.

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## Chapter 7 Guarantee

7.1 Any EV series printer purchased from our authorized dealer, we guarantee one year from the purchasing date verified by Guarantee Card.

7.2 If you have any question under normal usage state, the dealer will provide free charge for service in a year guarantee period.

7.3 The following is exceed guarantee range,

Without valid Guarantee Card;

Damaged by unwarrantable operation or abnormal use;

Damaged by taking apart or refitting the printer not allowed;

Because of FORCE MAJEURE or natural damage;

Consumptive parts are out of warranty (such as print head, pinch roller, ink filter, rectangular guide and a block).

7.4 The dealer will undertake the charged service out of guarantee time.

7.5 The manufacturer just bears the obligation based on machine itself, excluding any other loss induced from troubled machine.

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## Appendix

### Contents of Packing

- One host machine
- One set of accessories, see as the follows,

NO.	Items	QTY.
1	Power cable	2
2	Print cable	1
3	Cleaner cloth and nylon tube	1bag & 2
4	Empty ink tank (one big/ one small)	2
5	Pump soft tube	1
6	Operation manual and Guarantee card	Per 1
7	Inner hexagon spanner (S=2,3,5,8)	Per 1
8	“O” seal ring	8
9	Print software	1 set
10	PCI control card and driving control software	1 set
11	Fans dry framework	1 set

- One set of machine stand, see as the follows,

NO.	Items	QTY.
1	Left and right column	Per 1
2	Crossbeam of machine stand	1
3	Roller for feeding paper	2
4	Left and right holder for paper roller	Per 1
5	Waste ink box	1 set
6	Pull paper pole	1 set
7	Tighten kits	1 bag
8	Left, right bracket for pulling paper	Per 1 set
9	The cover of feeding gear wheel	Per 1
10	Φ5.5*7.5 rubber ring	11/12/14

Location conditions and necessary tools:

- Keep the room cleanness and brightness, temperature (20℃~30℃)、humidity (40%~70%);
- One 1000W vacuum with use of dryness and wet, connect tube of vacuum with tube of the printer;

- 
- Two 50ml glass syringes;
  - Some cleaner cloth with good quality;

In the workroom, you'd better install one big-power exhaust fan, one thermometer and one hygrometer. In dry area, one humidifier is also necessary.